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Information and communications technology

Report of the Advisory Committee on Administrative and Budgetary Questions

I. Introduction

1. The Advisory Committee on Administrative and Budgetary Questions has considered the following reports of the Secretary-General relating to information and communications technology:

(a) Second progress report on the enterprise resource planning project and revised estimates under section 28A, Office of the Under-Secretary-General for Management, of the programme budget for the biennium 2010-2011, and under the support account for peacekeeping operations (A/65/389);

(b) Status of implementation of the information and communications technology strategy for the United Nations Secretariat (A/65/491).

2. During its consideration of the reports, the Advisory Committee met with the Under-Secretary-General for Management and the Chief Information Technology Officer, as well as with other representatives of the Secretary-General, who provided additional information and clarification.

II. Enterprise resource planning project

3. The second progress report of the Secretary-General has been submitted pursuant to General Assembly resolution 64/243, in which the Secretary-General was requested to continue to ensure that the Assembly is kept informed, on an annual basis, of the progress of the enterprise resource planning project.



4. Background information on the rationale, evolution and funding of the project is set out in paragraphs 1 to 6 of the Secretary-General's report. In brief, as part of the management reforms¹ launched in response to the World Summit Outcome (see General Assembly resolutions 60/1 and 60/283), the General Assembly decided to replace the Integrated Management Information System (IMIS) with next-generation enterprise resource planning. On the basis of the proposals put forward by the Secretary-General in his report on enterprise systems for the United Nations Secretariat worldwide (A/62/510/Rev.1), the General Assembly decided, by its resolution 63/262, to implement a global enterprise resource planning solution, stressing that such a solution should aim to consolidate the management of all financial, human and physical resources under a single, integrated information system for the entire Organization, including for peacekeeping and field missions. In the same resolution, the Assembly authorized the Secretary-General to establish a multi-year special account to record income and expenditures for the project, and approved the proposed governance framework of the project. The Assembly also emphasized that the enterprise resource planning project should be viewed primarily as a business project driven by business process demands and delivered through complex information technology systems requiring a high level of technical expertise.

5. The United Nations enterprise resource planning project, named "Umoja", was initially envisaged to be implemented in two waves: the first consisting of a 30-month period for the implementation of the core finance, human resources, procurement and asset management functions required for compliance with the International Public Sector Accounting Standards (IPSAS); and the second consisting of a 24-month period for the implementation of the remaining functionalities, such as results-based management, risk management, and transportation and travel. Subsequently, in his first progress report on the enterprise resource planning project (A/64/380), the Secretary-General proposed instead a "pilot first" option, in which the complete enterprise resource planning solution, with all functionalities, would be developed and deployed in a small-scale, fully operational and contained environment, towards the end of 2011. The solution would be tested and stabilized in the pilot environment and then deployed to the rest of the Organization in two phases, to be completed by the third quarter of 2013. The Secretary-General affirmed that costs could be best contained and the risks mitigated under such an implementation strategy. The overall resource requirements for the implementation of the enterprise resource planning solution through the "pilot first" option were estimated at \$315.8 million. In the light of the need to synchronize the adoption of IPSAS with the introduction of the enterprise resource planning system, the projected date for the issuance of the first full set of IPSAS-compliant financial statements was postponed to the year ending 31 December 2014.

6. In its resolution 64/243, the General Assembly endorsed the proposal of the Secretary-General to deploy the enterprise resource planning project through the "pilot first" option and, in that context, requested the Secretary-General to present options for lowering the cost of the project. The Assembly also requested the Secretary-General to provide information on the resources that could be redistributed to the enterprise resource planning project as a result of the merging of

¹ Including initiatives such as the adoption of the International Public Sector Accounting Standards (IPSAS) and strengthened oversight and accountability.

any elements of other enterprise systems with the new enterprise resource planning system.

Updated benefits

7. In his first progress report (A/64/380), the Secretary-General presented a business case justifying the investment in enterprise resource planning and the advantages to be expected in terms of increased operational effectiveness and timeliness; higher client satisfaction; improved reporting; strengthened accountability, enhanced transparency and strengthened internal controls across the broad range of financial, procurement and staffing processes; and improved consistency in the application of rules and operating procedures in all administrative disciplines. The expected quantitative benefits after full implementation of the enterprise resource planning system were estimated at between \$134 and \$224 million per annum. In his current report (A/65/389), the Secretary-General has refined his analysis of the estimates of quantitative benefits on the basis of information gained during the detailed design and re-engineering of business processes. Table 1 of the report provides a summary of the updated quantitative benefits expected by functional area, showing a new range of between \$141.3 and \$222.6 million, reflecting a minor net variation as compared to the original estimates: a downward revision of the range of estimated benefits under supply chain/procurement/logistics is largely offset by higher estimated benefits in the other functional areas. Details of the specific benefits underpinning the updated estimates are presented in annex I to the Secretary-General's report. Annex II provides an update of the qualitative benefits expected by functional area, which are mostly related to greater effectiveness as a result of the availability of reliable, integrated and consolidated Organization-wide data, allowing improved reporting, monitoring, real-time analysis and decision-making.

8. In paragraphs 11 to 16 of his report, the Secretary-General discusses issues that have an impact on the calculation, identification and realization of the above-mentioned benefits. He emphasizes that the estimated ranges for the quantitative benefits were established on the basis of a series of assumptions which will have to be validated in an operational environment as well as on the basis of existing data, which may not be reliable owing to weaknesses in the current information and communication technology (ICT) systems. He points out that the benefits are expected to be realized only after full implementation and stabilization of the system and that, at the current stage, his estimates represent only potential benefits that should not be projected as savings in future budgets. The Secretary-General goes on to cite a number of conditions necessary for the effective realization of those benefits, namely: (a) that the active support of all stakeholders will be sustained, including strong political and financial backing from Member States, leadership by senior United Nations officials to ensure that the project receives the required level of support and participation, and the willingness of all managers and staff to embrace improved working methods; (b) that the project team will be able to mitigate risks over the life cycle of the project; and (c) that the project team is able to engage the entire Organization to create a shared vision and to ensure that knowledge is effectively transferred from specialist external resources to the United Nations staff.

9. **The Advisory Committee recognizes that the identification of benefits is an ongoing process and that factors such as those outlined in paragraph 8 above will have an impact on the estimates of the quantitative benefits and the conditions for their realization throughout the implementation of the project. It believes that sustained and long-term commitment, as well as constant monitoring and management of the risks and issues discussed above, will be vital if a sound enterprise resource planning solution aligned to the business needs of users is to be put into place and the necessary conditions are to be created for Organization-wide acceptance and realization of the benefits of the new system.**

10. In paragraphs 17 to 24 of his report, the Secretary-General mentions the possibility of benefits being derived from changes in the approach to service delivery, but does not elaborate on those changes or make any specific proposals. **The Advisory Committee will comment on this matter should the Secretary-General put forward any formal proposal, supported by a full cost-benefit analysis.**

Progress to date and overall status of the project

11. In his report, the Secretary-General states that he expects the project to be completed and deployed within the projected time frame, by the end of 2013. The overall resource requirements also remain unchanged at \$315.8 million.

Project activities

12. The Advisory Committee notes that, as requested in its previous report (A/64/7/Add.9, para. 72) the Secretary-General has provided, in figure II of his report, a detailed and annotated timeline for the project, as well as the required resources by phase. The project timeline is divided into four major phases, namely, prepare (2009), design (2009-2010), build (2009-2011) and deploy (2012-2013). The figure shows the key milestones and targets of each phase in the area of project governance and legislative decision-making, as well as those relating to functional, technical and change management tasks. Ongoing project management tasks are also shown, including day-to-day management, oversight and quality control, procurement and contract management, and recruitment. Figure II also shows the tasks that are carried out in parallel, including those concerning the different phases of the project. **The Advisory Committee welcomes the provision of a more detailed timeline for the project. It is of the view that information on the main dependencies between key tasks should also be shown in the figure or provided in the related notes, to facilitate the identification of critical implementation activities.**

13. The Advisory Committee was informed that the main focus of the enterprise resource planning project team during the reporting period was on the design phase. The key activities reported by the Secretary-General in the areas of procurement, functional design, technical preparation and change management are as follows:

- *Procurement and contract management.* In the summary section of his report, the Secretary-General indicates that the protracted negotiations to procure the preferred enterprise software package constituted one of the main challenges faced by the project team and caused some delays. The Committee was informed that the contract with the enterprise software vendor was concluded

on 25 June 2010. It notes from figure II that the systems integration services contract has been divided into two parts, the first for the design phase of the project, which was signed towards the end of 2009, and the second for the build and implementation phases, which is planned to be concluded later in 2010.

- *Functional design.* Progress in this area is outlined in paragraphs 28 to 30 of the Secretary-General's report. The Committee notes that functional design covers initial and detailed design, during which business processes are identified and re-engineered independently of the enterprise resource planning software package. Detailed design is followed by final design, to produce a blueprint based on the specific enterprise resource planning software to be used for the "build" phase, during which the solution is tailored to the Organization's requirements. The Secretary-General indicates that the detailed design phase is nearing completion and that final design was initiated in July 2010, after the signing of the contract with the software vendor. Upon enquiry, the Committee was informed that some 272 business processes had been identified in the four functional areas of the enterprise resource planning project (human resources management, finance, supply chain and central support services), of which 235 have been re-engineered and 37 are in progress, mainly in the finance functional area. The Committee notes that an internal review was conducted to ensure the completeness, consistency and harmonization of business processes across functional areas, and to identify the policies, procedures, rules and regulations that require updating to optimize the solution. The proposed re-engineered processes are currently being reviewed by the business community, whose support and approval is necessary.
- *Technical tasks.* The Secretary-General indicates that technical tasks are progressing in parallel to work on the design phase (A/65/389, para. 31). Figure II shows that the technical preparatory phase was completed in mid-2010, including activities such as the provision of support to the software purchase process and preparation for the decommissioning of existing systems. Technical activities relating to the design phase, such as data conversion, security, infrastructure, technical architecture, quality assurance and the setting up of operational and development environments are ongoing.
- *Change management.* Key activities undertaken in connection with preparations for upcoming enterprise resource planning-related changes, communications and training are outlined in paragraphs 32 to 42 of the Secretary-General's report. They include the establishment of communities of practice using online information-sharing tools (Umoja net), the designation of focal points as Umoja leaders in the field and the establishment of a change management presence in Geneva.

14. In section IV of his report, entitled "'Cross-cutting' issues and opportunities" (A/65/389, paras. 57-73), the Secretary-General provides information on the linkages and interrelationships between the enterprise resource planning project and other management reform initiatives in the areas of administration, accountability, finance, human resources, harmonization of business practices and ICT, as well as certain initiatives of the Department of Field Support. The Advisory Committee notes that the enterprise resource planning team participates in these ongoing reform

initiatives with a view to integrating their requirements into the enterprise resource planning solution, as well to identify opportunities for improving existing policies and making the best possible use of the enterprise resource planning solution. For instance, as regards accountability, the enterprise resource planning solution will provide a basis for the accountability framework through detailed electronic recording of transactions and approvals, and support the requirements for reviewed delegation of authority mechanisms, enterprise risk management and a strengthened internal control framework. The Committee also notes that the enterprise resource planning system will support performance reporting and results-based management, once a standardized methodology is adopted.

15. In his current progress report, the Secretary-General has identified a number of developments which have emerged or become apparent as the project has progressed and have led to adjustments to project staffing and design. They include new opportunities for better use of the new solution, instances of areas where policy frameworks need to be established or adapted before requirements can be finalized, as well as gaps in the initial project structure. Such adjustments are to be expected in the context of large, complex projects such as Umoja that are implemented over a long period. At the same time, the Committee continues to believe that it is necessary to establish a clear baseline of the key parameters of the project at the time of project approval and to document the changes as the project evolves. Among the key parameters to be documented are: goals and objectives of the project, its geographical and functional scope, key milestones and deliverables, project risks, assumptions and constraints, and out of scope functions, as well as project governance and management structure, staffing, cost estimates and funding. In the Committee's view such an approach is an integral part of the change management process and will facilitate decision-making in the future.

16. With regard to organizational arrangements (A/65/389, paras. 46-52), including governance and oversight, the Advisory Committee notes that an updated chart of the governance framework is provided as annex III to the Secretary-General's report. The Secretary-General states that the Director of the enterprise resource planning project is well supported by the governance structure, which affords him direct access to the heads of the major service providers as well as his two reporting officers, namely the Under-Secretary-General for Management (Chair of the Steering Committee) and the Assistant Secretary-General/Chief Information Technology Officer. The Advisory Committee notes that the Project Steering Committee continues to provide guidance and advice to the Chair, and that its membership was expanded to include the Department for General Assembly and Conference Management. The Committee further notes that the project's progress continues to be monitored by the Management Committee, whose involvement will become more critical as the initiative moves forward and decisions within the purview of the Management Committee must be taken. The Secretary-General should continue to provide oversight and close monitoring of the project.

17. The Advisory Committee welcomes the progress made thus far towards completion of the design phase of the project.

Project staffing

18. In his report, the Secretary-General provides an update on project staffing (paras. 53-56) as well as updated requirements for the current biennium to address

gaps in the enterprise resource planning project team structure (paras. 78-88). He states that timely recruitment has been a challenge and represents a significant project risk factor. Only 46 of the 80 positions/posts approved for the project were filled at the end of August 2010, reflecting a vacancy rate of 42.5 per cent. The distribution of vacant posts is summarized in table 3 of the Secretary-General's report.

19. The Secretary-General also indicates that post and non-post resources of the Management Support Service of the Office of the Under-Secretary-General for Management have been temporarily assigned to the change management team for the duration of the project, effectively augmenting the project team by a total of six posts: four regular budget posts (1 D-1, 1 P-5, 1 P-2 and 1 GS (OL)) and two P-4 support account posts (para. 56).

20. In addition, in order to address gaps identified in the enterprise resource planning project team structure during the design phase, the Secretary-General is proposing the establishment of an additional 10 temporary posts to be funded through the redeployment of resources from contractual services to posts (paras. 83, 88 and 89). The specific proposals are as follows:

- Establishment of a cross-functional programme and project management team comprising 8 temporary posts (one D-1 Programme Management Team Leader, two P-5 Senior Programme Management Analysts, three P-4 Functional Programme Management Experts, one P-3 Information Systems Analyst, and one General Service (Other level) Programme Assistant) (paras. 85-88). The programme and project management team would work across the four functional teams (finance, human resources, supply chain, and central support services) to ensure that the enterprise resource planning solution supports more efficient and consistent programme and project delivery throughout the Secretariat, including results-based management and performance reporting. The Secretary-General indicates that the design phase demonstrated that the specialized functional teams could not address such issues in a holistic manner.
- Establishment of a project delivery team in the project management office, comprising two temporary posts (one D-1 Delivery Manager and one P-5 Deputy Delivery Manager) (paras. 82-84). The Delivery Team would be responsible for activities such as project management, team coordination and the supervision of contractual services, which are currently outsourced to the systems integrator. The Secretary-General indicates that it is necessary to perform these activities in-house to minimize risks and ensure that the Organization is deriving maximum benefits from its service providers.
- Proposed resources under contractual services would be decreased by \$1,739,600 to accommodate post costs related to the establishment of the above-mentioned 10 new temporary posts (para. 89).

21. The Secretary-General is also proposing the conversion of 36 positions currently funded under general temporary assistance to temporary posts. He indicates that these positions were previously requested as new temporary posts in the first progress report (see A/64/380, para. 94), but that there was no explicit approval by the General Assembly for establishing them as such (A/65/389, para. 78). The Advisory Committee was informed that the conversion is being proposed in order to facilitate recruitment and the filling of vacant positions. As a

result of these proposals, the total staffing for the project would increase from 80 to 90 temporary posts. Taking into account the additional resources redeployed from the Office of the Under-Secretary-General for Management (see para. 19 above), the total capacity of the project team would increase to 96.

22. In the Advisory Committee's view, the Organization's inability to fully staff the project team is a matter of concern, since the delays in filling vacancies entail risks that project activities may not be accomplished on time, owing to insufficient staff capacity. The Committee is particularly concerned by the high level of vacancies among the Professional staff in the enterprise resource planning project technical and functional teams, where proper planning and coordination capacity, and strong analytical skills are critical to drive progress. The Committee urges the Secretary-General to make every effort to fill the enterprise resource planning project team vacancies as a matter of priority and to explore every possibility to expedite the process, so as to minimize any adverse impact on project implementation.

23. With regard to the establishment of the additional project teams, the Advisory Committee believes that it is necessary to put into place mechanisms for strengthening in-house capacity and for the transfer of knowledge from consultants to programme and project staff. Accordingly, the Committee recommends approval of the Secretary-General's proposals.

Subject matter experts

24. As indicated in paragraph 55 of the Secretary-General's report, the enterprise resource planning project team is supplemented by subject matter experts, whose contributions range from a few hours to several months at a time. In his first progress report (A/64/380), the Secretary-General specified that subject matter experts were staff members recognized as leading practitioners in specific areas of the Organization. At the time of its consideration of the first progress report, the Advisory Committee was informed that subject matter experts were required to assist, on a temporary basis, in system design, data conversion, interface development, report generation and testing of the enterprise resource planning system, and would also have a key role to play in training and supporting users during deployment and in the post-deployment period. At that time, the Secretary-General also emphasized that the active participation of subject matter experts, who have an in-depth knowledge of their functional areas and the business requirements of their departments/offices, was essential to ensure that the enterprise resource planning system would effectively cover the required functionalities and would be accepted by the business owners² and the Organization (A/64/7/Add.9, para. 82).

25. The Advisory Committee enquired as to the procedures in effect for bringing subject matter experts on board and whether there had been any changes in practice in this regard since the initiation of the project. It was informed that, owing to the lack of sufficient candidates to provide the large number of subject matter experts required for the project, and with a view to ensuring that the selection process for subject matter experts is transparent and consistent with established provisions for

² The Under-Secretary-General, Department of Field Support, and the Assistant Secretary-General of the Office of Human Resources Management, the Office of Central Support Services, the Office of Programme Planning, Budget and Accounts and the Department for General Assembly and Conference Management.

staff selection, an expedited competitive process for the selection of subject matter experts for the four functional areas (human resources, finance, central support and supply chain) had been introduced, with effect from October 2010. The process involved the preparation of temporary vacancy announcements by the Team Leader, joint evaluation of applicants by members of the enterprise resource planning project team and the business owners, and the establishment a roster of suitable candidates. The release of candidates is arranged by the Executive Office of the Department of Management following approval by the Under-Secretary-General for Management. In addition, the movement of subject matter experts is administratively recorded for mobility purposes. The competitive process is not applicable to subject matter experts for specialized functions available only within a particular department/office, such as investment management. A description of the procedure, provided to the Committee, is contained in annex I.

26. **The Advisory Committee shares the Secretary-General's view that subject matter experts have an important role to play in the design and other phases of the project, since their inputs shape the re-engineered business processes and the new enterprise resource planning solution to be implemented across the Organization worldwide. The participation of subject matter experts is also required to provide the necessary assurances that the enterprise resource planning system covers the required functionalities and can be accepted by the users. As indicated in paragraph 8 above, this is a critical factor for the successful implementation of the enterprise resource planning project and the realization of its benefits (see also para. 30 below). It is therefore essential that, as indicated above, the subject matter experts selected to contribute to the enterprise resource planning project possess the required expertise and are made available in accordance with the constraints of the timetable of the project.**

27. **Given the short-term and time-sensitive nature of the requirements for the temporary placement of the subject matter experts in the enterprise resource planning project teams, as well as the risks to the project should the required expertise not be available when needed, the Committee stresses the requirement for efficient and speedy procedures for the selection of subject matter experts, avoiding needlessly bureaucratic and time-consuming efforts which would inevitably divert efforts from productive project tasks to recruitment and other ancillary administrative activities.**

Status of expenditure

28. In his report, the Secretary-General provides summaries of approved resources and actual expenditure for the previous biennium and for the current biennium as at 31 August 2010, by source of funds (table 5) and object of expenditure (table 6). The Advisory Committee notes that project resources approved for the biennium 2010-2011 total \$82.0 million. As at 31 August 2010, actual expenditure amounted to \$50.5 million. Upon enquiry, the Committee was provided with an update on expenditure for 2010-2011 as at the end of September 2010, showing a slight increase in expenditure to \$50.7 million. The Committee was informed that the Secretary-General expects to fully utilize the resources provided for 2010-2011.

Customization and extensions to the enterprise resource planning system

29. In paragraph 44 of his report, the Secretary-General indicates that no essential customizations to the core software code of the enterprise resource planning system have yet been identified, taking into account the processes analysed and the requirements reviewed thus far, and on the assumption that the Organization will be able to adapt to new working methods. The Secretary-General advanced similar caveats with respect to the realization of benefits (see para. 8 above). **The Advisory Committee trusts that every effort is being made to create the conditions that will facilitate adaptation to change and improved methods of work Organization-wide. It emphasizes that the sustained commitment of the Secretary-General, the Management Committee and the Project Steering Committee will be required to achieve this.**

30. The Secretary-General also indicates that the enterprise resource planning solution can be supplemented with external programmes, or "extensions", to provide additional functions which can be "plugged in" or "bolted on" to the enterprise resource planning system without changing the core software of the system. Such extensions would not affect future software upgrades and would be less costly to maintain than customizations. The Secretary-General has identified two significant extensions that may be required and which are explained in the footnotes to paragraph 44 of the report: (a) a parallel ledger, to cope with the United Nations dual budgetary cycles and (b) a solution for the requirements of the United Nations in material tracking. **The Advisory Committee takes note of these alternative approaches with interest. It recommends that the Secretary-General be requested to provide, in the context of the next progress report, further details of the related requirements and constraints, including any interfaces to be developed between such extensions and the core enterprise resource planning system, along with an update on any further extensions that may be required.**

Interfaces with other systems/existing systems

31. The Secretary-General indicates that a comprehensive cataloguing of existing applications is being carried out in cooperation with the Office of Information and Communications Technology and the Information and Communications Technology Division of the Department of Field Support (A/65/389, para. 43). It is estimated that some 690 systems could be replaced by the enterprise resource planning system while approximately 200 systems will have to be interfaced with it. In this connection, the Committee recalls that, in its resolution 64/243 the General Assembly requested the Secretary-General to provide information on the resources that could be redistributed to the enterprise resource planning project as a result of the merging of other systems with the enterprise resource planning system (see also para. 6 above). The Committee notes that the Secretary-General has not yet provided a response to the General Assembly's request.

32. **The Advisory Committee recommends that the Secretary-General be requested to pursue his analysis of the systems that could be replaced by the enterprise resource planning system and to provide a definitive inventory of the systems to be decommissioned, as well as information on the resources that could potentially be released, in the context of the next progress report. It emphasizes that the enterprise resource planning team should work in close cooperation with the Office of Information and Communications Technology to**

complete the cataloguing exercise and to establish such an inventory. The Committee is of the view that the activities related to the planning of decommissioning activities should be coordinated by the Office of Information and Communications Technology, in the context of the projects arising from the outcome of the structural review of ICT capacities (see para. 41 below).

33. A list of some of the key systems to be interfaced is provided in footnote 19 of the Secretary-General's report and includes internal systems such as Inspira and the Enterprise Identity Management System, as well as the external systems of the United Nations Development Programme (Atlas), the International Civil Service Commission and the United Nations Joint Staff Pension Fund. The Secretary-General indicates that generic solutions for standardized interfaces will be applied to the extent possible, allowing reduced development and support costs.

34. The Advisory Committee requested additional information on the interfaces to be developed between the enterprise resource planning and other systems that could not use generic solutions. It was provided with, by way of an example, the following details on interfaces to be established between the enterprise resource planning system and Inspira:

- The enterprise resource planning software (SAP) must be interfaced with Inspira (PeopleSoft) across five different modules or functions: external recruitment, internal recruitment, performance management, learning and position management. Information will have to be transferred both from Inspira to the enterprise resource planning system and vice versa, with the development of inward and outbound interfaces.
- Resource requirements for the development of interfaces for the first three modules are estimated at an initial cost of \$500,000 with ongoing costs of up to two full-time equivalent positions for the maintenance of the interfaces.
- The costs for the development of interfaces for the learning and position management modules have not yet been determined, pending further development of Inspira and analysis of requirements. The Secretary-General estimates that the costs of the remaining two interfaces are likely to be similar to the estimates for the first three modules.

35. The example described above demonstrates the complexity of the interfaces envisaged to be established between the enterprise resource planning system and Inspira, which will be costly to develop and maintain. **The Advisory Committee emphasizes the need to maximize coverage of the required functionalities within the enterprise resource planning system itself, so as to limit, to the extent possible, the requirements for the development and maintenance of interfaces. It notes the Secretary-General's intention to apply generic solutions for standardized interfaces wherever possible. The Committee recommends that the Secretary-General be requested to report comprehensively on the systems to be interfaced with the enterprise resource planning system, as well as the different interface models to be put in place, in the context of the next progress report.**

36. In this connection, the Advisory Committee was also informed that it has not yet been determined whether Inspira or the enterprise resource planning system would be the primary system for the position management function. **The Committee emphasizes that the enterprise resource planning system should be**

viewed as the central Organization-wide system of record and the authoritative data source for all key data related to the management of human, financial and physical resources.

Estimated future operating costs

37. In its previous report on this subject (A/64/7/Add.9, para. 87), the Advisory Committee expressed the view that an estimate of future operating costs was an essential input for making an informed decision on the implementation of enterprise resource planning, and requested that this information be provided to the General Assembly. The Secretary-General estimates that the future operating costs of the enterprise resource planning will range between \$40 and \$50 million per annum, on average (A/65/389, para. 94). He specifies that this amount would cover a range of core costs related to hardware and software requirements, functional and technical support, hosting services, future upgrades and improvements, and other standard costs. He further indicates that other costs, such as telecommunications costs cannot be calculated at this point, in light of the fact that the requirements are dependent on the sequence of the deployment of the enterprise resource planning system to the various sites, as well as the service delivery model (see also para. 10 above). **The Advisory Committee recommends that the Secretary-General be requested to continue to refine these estimates as the modalities of the deployment of the enterprise resource planning system are determined and other cost factors are clarified, and to provide updated estimates in future progress reports.**

Future downsizing of the project team

38. The Secretary-General indicates that once the system is deployed in 2013, Umoja will cease to exist as an independently funded project, and that the resources required for supporting and maintaining the enterprise resource planning system will be provided for in the context of operational budgets. **The Advisory Committee notes that, after the project is completed, the enterprise resource planning system will be supported under the resource management programme of the Office of Information and Communications Technology. It is therefore important, to plan for the effective transfer to the Office of Information and Communications Technology of knowledge and expertise relating to both the technical environment and the functional areas of the enterprise resource planning system (see also para. 43 below).**

Options for lowering the cost of the project

39. In its resolution 64/243, the General Assembly endorsed the proposal of the Secretary-General to deploy the enterprise resource planning system through the "pilot first" option and, in that context, requested the Secretary-General to present options for lowering the cost of the project (see also para. 6 above). The Secretary-General has not proposed any such options, but has instead presented a variety of measures to contain costs, in paragraphs 98 to 107 of his report. During its discussions with the representatives of the Secretary-General, the Advisory Committee was informed that it was not possible to make significant cuts in the project costs without substantially altering the plan and approach for the implementation of the enterprise resource planning system that had been approved by the General Assembly.

40. The Advisory Committee notes the efforts directed towards containment of a range of costs and encourages the Secretary-General to maintain focus on the optimal use of project resources. It notes in particular the opportunities identified during the design phase to partner with sister agencies (A/65/389, para. 104) and the ongoing collaboration with the United Nations Children's Fund and the World Food Programme in the design and building of human resource management and travel management functionalities. Further opportunities cited include sharing of the costs of a turnkey travel management solution for United Nations commercial and non-commercial travel flights and movement of personnel, and the provision of access to the Entitlements Validation Engine already developed for other United Nations entities, which will cover some of the unique requirements of the United Nations at substantial savings in terms of resource requirements for software development. **The Advisory Committee welcomes these developments and encourages the Secretary-General to pursue such opportunities vigorously. The Committee remains convinced that there are opportunities for the adoption of common solutions, procedures and standards among the entities of the United Nations system, and encourages the Secretary-General to pay particular attention to maximizing exchanges and synergies between the organizations regarding their respective ongoing enterprise resource planning initiatives. In the view of the Committee, such collaboration could be viewed as a long-term option for lowering enterprise resource planning costs in the future. The Committee recommends that the Secretary-General be requested to report comprehensively on all developments in this area in the context of future progress reports.**

Other observations

Collaboration with the Office of Information and Communications Technology, the Department of Field Support and other departments/offices

41. In his report, the Secretary-General refers to numerous technical tasks related to enterprise resource planning implementation, including: technical activities during the design phase in the area of data conversion, security, infrastructure, portal solutions, disaster recovery and analysis of the impact of the enterprise resource planning on the network, as well as the establishment of the technical infrastructure for the production and development environments (see A/65/385, paras. 31 and 105). Other activities accomplished in collaboration with the Office of Information and Communications Technology, the Department of Field Support, the Department of Management, the Office of Human Resources Management and other offices include the review of existing systems to be replaced by the enterprise resource planning system, formulation of the policy on electronic signatures and integration of the enterprise resource planning project team with other enterprise systems (ibid., paras. 31, 43, 68, 69 and 71).

42. In this connection, the Advisory Committee notes from the organizational structure of the project set out in annex IV of the progress report, that the enterprise resource planning Technology Management team comprises 18 positions/posts (1 D-1, 5 P-5, 12 P-4). In his initial proposal for one D-1 and one P-5 position (A/62/510/Rev.1, para. 62), the Secretary-General indicated that the functions of the two positions included the definition of the enterprise-wide ICT architecture; setting technical standards; projecting enterprise-wide enterprise resource planning needs; evaluating the suitability of infrastructure operations; identifying gaps between

existing infrastructure and enterprise resource planning requirements; and providing expertise and guidance during the implementation phase. Subsequently, the following additional 16 temporary posts were proposed: four P-5 Architect posts for solutions, infrastructure, business intelligence/data conversion and user interface, and portal and mobile technology; five P-4 Technical Architects to serve as liaison for each functional area; and seven P-4 Architect posts for master data management, security, reporting, portal solutions and workflow, mobile technology and forms, and Web 2.0 solution (A/64/380, para. 96). These proposals were approved by the General Assembly in its resolutions 63/252 and 64/243.

43. The Committee notes that the mandate of the Office of Information and Communications Technology includes: providing central ICT leadership for the Organization; setting Organization-wide standards and policies; planning and coordinating Secretariat-wide activities; and providing enterprise systems and infrastructure. **The Advisory Committee stresses the need to ensure that the technical standards of the enterprise resource planning project and those of the Office of Information and Communications Technology are aligned. It also considers that there may be a need to review and clarify the respective roles and responsibilities of the enterprise resource planning Technical Management Team and the Office of Information and Communications Technology, as well as the Information and Communications Technology Division of the Department of Field Support in areas such as the establishment of the technical infrastructure of the enterprise resource planning system, the establishment of the production and development environments for the enterprise resource planning system, the decommissioning of applications and data conversion, with a view to ensuring that there is no duplication of efforts or overlap. The Committee reiterates the need also to involve the personnel responsible for the development/maintenance of the systems to be replaced by or to be interfaced with the enterprise resource planning system. The Committee recommends that the Secretary-General be requested to provide details on the technical activities to be accomplished during all phases of the enterprise resource planning project and the respective roles of the enterprise resource planning project team and the Office of Information and Communications Technology, as well as those of the Information and Communications Technology Division of the Department of Field Support, offices away from Headquarters and field missions.**

Conclusion

44. The actions to be taken by the General Assembly are set out in paragraph 113 of the Secretary-General's report. The Committee recommends that the General Assembly approve the Secretary-General's proposals.

III. Status of implementation of the information and communications technology strategy for the United Nations Secretariat

45. The Secretary-General's report contained in document A/65/491 has been submitted in response to General Assembly resolution 63/262, in which the General Assembly decided to establish the Office of Information and Communications

Technology, and requested the Secretary-General to report to the General Assembly at the main part of its sixty-fifth session on his information and communications technology strategy and on the efficiency gains or benefits expected from its implementation. The Assembly also requested the Secretary-General to report on a comprehensive inventory of information and communications technology capacities across the Secretariat and to provide an update on the governance and management arrangements for the Office. The report also responds to the request of the Assembly in resolution 63/269 that the Secretary-General submit to it no later than at the main part of its sixty-fifth session a unified approach to disaster recovery and business continuity.

46. Background information on the information and communications technology strategy for the United Nations Secretariat and the major milestones in its implementation is provided in the summary and paragraphs 1 to 11 of the Secretary-General's report.

47. Recognizing the need to address the state of fragmentation of the information and communications technology (ICT) environment, the General Assembly decided in resolution 60/283 to establish the post of Chief Information Technology Officer to define and implement a comprehensive information management strategy for the entire Secretariat. In 2007, the Secretary-General proposed an ICT strategy for the Secretariat which would serve as the Organization-wide agreement on the direction of ICT over the next three to five years (see A/62/793 and Corr.1). He also proposed the establishment of an independent Office of Information and Communications Technology, headed by the Chief Information Technology Officer. The Office would provide central ICT leadership for the Organization, set Organization-wide standards and policies, plan and coordinate Secretariat-wide ICT activities and provide enterprise systems and infrastructure for the entire organization (see A/62/793/Add.1). In its related report (A/63/487), the Advisory Committee broadly agreed with the approach proposed by the Secretary-General, noting that his plan for the management of ICT activities in the Secretariat was based on strong central leadership for the establishment and implementation of Organization-wide ICT standards and activities, along with a decentralized approach to meet the specific programmatic and operational requirements of all departments.

48. By its resolution 63/262, the General Assembly endorsed the conclusions of the Advisory Committee as set out in its report (A/63/487). The Assembly emphasized the importance of strong, central leadership for the establishment and implementation of Organization-wide information and communications technology standards and activities in order to ensure efficient utilization of resources, modernization of information systems and improvement in the information and communications technology services available to the United Nations. The Assembly also recognized that the successful integration of central information and communications technology functions across the Secretariat was essential to achieving coherence and coordination in the work of the Organization and between the Secretariat and the funds, programmes and specialized agencies.

A. Status of the implementation of the ICT strategy

49. In section II of his report (A/65/491) the Secretary-General provides information on the status of the implementation of the ICT strategy, including an

update on the activities undertaken and progress made in relation to the ICT management framework and the three strategic programmes of the Office of Information and Communications Technology, namely for knowledge management, resource management and infrastructure management. The Secretary-General also presents a unified approach to disaster recovery and business continuity, and reports on United Nations system-wide harmonization efforts.

50. An overview of the ICT strategy is provided in paragraphs 12 to 18 of the Secretary-General's report. It includes three components: (a) a vision for the future setting out the main goals of the ICT strategy; (b) a management framework for addressing the five priority areas that need to be significantly improved through the ICT strategy, namely ICT management structure, strategic programme delivery, service and performance management, global architecture and standards and financial control and reporting; and (c) the critical ICT needs, namely, knowledge management, resource management and infrastructure management, that must be addressed in a coherent manner at the organizational level to ensure that they effectively support substantive activities across the Secretariat.

Status of the ICT management framework

51. Table 1 of the Secretary-General's report provides a summary of the key activities accomplished during 2009 and 2010 and planned for 2011 and 2013 in relation to the ICT management framework. Key accomplishments include the following:

(a) Establishment of OICT

The Office of Information and Communications Technology was established with effect from 1 January 2009 as an independent unit, reporting directly to the Executive Office of the Secretary-General, through the integration of existing resources from the Information Technology Services Division of the Department of Management and part of the Information and Communications Technology Division of the Department of Field Support, based on a budget- and staff-neutral approach. The Secretary-General indicates that clear lines of authority, accountability and the division of labour between the Office and the Department of Field Support were established (A/65/491, para. 21).

(b) Establishment of management oversight committees and advisory bodies

A comprehensive ICT management framework was established in April 2009, including the ICT Executive Committee, an ICT advisory group, ICT programme working groups and local ICT committees, as well as an ICT management coordination group consisting of heads and senior staff of ICT units in departments and offices across the Secretariat. The Secretary-General states that simpler and more operationally effective structures than those proposed in document A/62/793 have been established, as recommended by the General Assembly in its resolution 63/262 (*ibid.*, para. 24).

(c) Conduct of structural reviews of all ICT units

A structural review of all the ICT units across the Organization was completed (*ibid.*, para. 26; see also section B below).

(d) *Formulation of the ICT performance management framework*

Measurement standards, benchmarks and reporting systems to track the performance of ICT units were developed, and performance management baseline and benchmarks were established, with a view to enhancing the delivery of services and improving the management of ICT resources (ibid., paras. 27-30).

(e) *Development of the ICT budgetary and portfolio management framework*

A project management framework was established to improve the alignment of ICT initiatives with the Organization's operational objectives. Other accomplishments include the technical review of ICT budgets before their submission to the Controller; a more rigorous review of ICT investment proposals; and, in conjunction with the Office of Programme Planning, Budget and Accounts, adjustment of certain budgetary procedures to provide further clarity regarding ICT budgets and expenditure; as well as the development of an enterprise tool to support the framework (ibid., paras. 31-33).

(f) *Establishment of strategic oversight of ICT activities at the United Nations Logistics Base at Brindisi, Italy*

Improved service levels and cost-sharing arrangements for sharing ICT facilities at the United Nations Logistics Base were established, in cooperation with the Department of Field Support (ibid., para. 36).

(g) *Global architecture and standards*

Information security requirements were integrated into the ICT project management framework (ibid., paras. 38-39).

(h) *ICT "fast forward programme"*

The ICT "fast forward programme" was launched by the Office of Information and Communications Technology in late 2008. The third round initiatives have been selected and the projects are currently under way. Initiatives that have been implemented to date include "myUNcalls" for online call management, iSeek global Intranet access to United Nations offices in remote locations, a Member States portal (deleGATE) and an ICT sustainability initiative (ibid., para. 40).

52. Concerning the Office of Information and Communications Technology, the Secretary-General states that the placement of the Office in the structure of the Organization should remain as it is, since this arrangement has worked well. The Secretary-General also indicates that existing resources have been redeployed to the Strategic Management Service to enable the Office to initiate the strategic, cross-cutting activities of its new mandate, because resources for that purpose have not been fully provided (ibid., paras. 23 and 201; see also para. 100 below).

53. Given that the placement of the Office in the structure of the Organization is still relatively new, the Advisory Committee recommends that the issue be kept under review and that the Secretary-General be requested to report on the effectiveness of the organizational arrangements in the context of the proposed programme budget for 2014-2015.

Strategic programmes

54. In paragraphs 41 to 59 of his report the Secretary-General provides an update on the activities undertaken in relation to the knowledge management, resource management and infrastructure management programmes. Tables 2, 3 and 4 summarize the activities of each of the three programmes, respectively, including their goals and objectives, the key activities accomplished during 2009 and 2010 and the tasks planned for the period 2011-2013. In this connection, the Advisory Committee recalls that, in paragraph 126 of its resolution 64/243, the General Assembly decided not to appropriate resources for the enterprise content management and customer relationship management systems, and requested the Secretary-General to submit a fully justified proposal for post and non-post resources in the context of the proposed programme budget for the biennium 2012-2013.

55. With regard to the knowledge management programme (A/65/491, paras. 42-46), the Secretary-General provides an update on the key activities and accomplishments of the Knowledge Management Service of the Office of Information and Communications Technology as well as those of other Secretariat departments/offices. He indicates that the Working Group on Knowledge Management was established, with representation from all departments/offices, to develop the Organization's knowledge management direction, policies, standards, guidelines and procedures. The Advisory Committee notes that the Working Group has adopted a definition of core metadata and is establishing a common content management platform for the Organization. The Committee notes that other activities/accomplishments in the knowledge management area include: the formulation of guidelines for the digitization of documents and initiation of the capital master plan digital asset management project for the Department of Public Information, Department of General Assembly and Conference Management and the Office of Central Support Services of the Department of Management; the adoption of a standard collaboration tool (eRoom); the launching of a portal for Member States (deleGATE); the implementation of a web platform for uniform access to statistical data (UNdata); the adoption of a standard document management tool; and the adoption of a standard enterprise portal tool that was piloted in selected field missions.

56. With regard to the resource management programme (*ibid.*, paras. 47-51), the Secretary-General indicates that the Office of Information and Communications Technology continued to work closely with other departments and offices that are involved in resource management programme efforts throughout the Secretariat, including the talent management (Inspira) and enterprise resource planning (Umoja) projects. In particular, the Office and other ICT entities Secretariat-wide are collaborating with the Umoja team in its ongoing efforts to catalogue and analyse existing systems to be replaced by the enterprise resource planning system, which complement the ICT structural review initiative. Other key activities/accomplishments in relation to resource management include: the adoption and deployment of a tool for enterprise portfolio management; the implementation of the first phases of the customer relationship management (iNeed) and enterprise identity management projects; and progress in the implementation of a comprehensive conference and meetings management system by the Department for General Assembly and Conference Management.

57. In the area of infrastructure management (*ibid.*, paras. 52-59), the Secretary-General indicates that much of the focus in 2009 and 2010 was on activities related to the capital master plan project at Headquarters, including overseeing implementation of new ICT infrastructure in four swing space buildings and three additional buildings, as well as the physical relocation of over 6,000 staff. In addition, the Information Management Working Group was formalized and a business case for the globalization of service desks was developed in the context of the ICT structural review. The Secretary-General also reports on progress made on other projects including: replacement of the conventional telephone system with Internet protocol telephony; "mobile office" for remote access to United Nations systems; disaster recovery and business continuity support; and implementation of a high-speed network at Headquarters.

58. **The Advisory Committee notes the numerous activities undertaken and the progress being made under the three strategic programmes. The Committee appreciates the presentation of the information in the summary tables, which provide a concise and comprehensive overview of the programmes and their activities, and establish a clear baseline from which progress can be assessed in future reports. With regard to activities planned for the biennium 2012-2013, the Committee expects the Secretary-General to submit fully justified proposals for enterprise content management and customer relationship management in the context of the proposed programme budget for the biennium 2012-2013, as requested by the General Assembly in paragraph 126 of its resolution 64/243.**

Unified ICT disaster recovery plan and business continuity approach

59. The Secretary-General presents a unified ICT disaster recovery plan and business continuity approach in accordance with General Assembly resolutions 63/262, section IV, and 63/269 (A/65/491, paras. 60-79). Background information on the comprehensive emergency management framework for crisis preparedness and response is provided in paragraphs 60 to 62 of the Secretary-General's report. ICT disaster recovery planning and business continuity, as well as crisis management and medical emergency planning, will be unified under this framework, ensuring a harmonized response of the Organization to crisis events. The Secretariat is currently reviewing procedures to be implemented in this regard which will be submitted in a separate report for the consideration of the General Assembly. The Advisory Committee requested additional information on the ongoing activities undertaken by the Department of Field Support to streamline and consolidate data centres in field missions, which is contained in annex II to the present report.

60. The Secretary-General also provides information on the disaster recovery planning and business continuity measures taken at Headquarters in the context of the capital master plan, in particular the migration of the primary data centre from the Secretariat Building to the North Lawn Building and the installation of the new secondary data centre facility located in Piscataway, New Jersey.

61. The Secretary-General indicates that, at present, almost every United Nations duty station operates a data centre equipped in proportion to its needs and that significant expenditures are directed to providing ICT support for disaster recovery planning and business continuity operations. The new approach for data centres is based on the proposed establishment of two enterprise data centres, one at the

United Nations Logistics Base at Brindisi, Italy, and the other at the United Nations Support Base at Valencia, Spain. Both centres would be managed and operated by the Department of Field Support under the strategic oversight of the Office of Information and Communications Technology, including a supporting cost-sharing arrangement. Under this approach, enterprise data centres would host systems used across all Secretariat duty stations that may be accessed by users regardless of their location. Data centres at duty stations would host systems that cannot be hosted elsewhere and which need to be accessed only by local users. Duty station data centres would eventually be downsized, in line with the scale of location-specific needs. In his report, the Secretary-General also sets out the rationale for this approach and its guiding principles. Figure III depicts the ICT disaster recovery plan and business continuity architecture.

62. The Secretary-General indicates that a significant amount of work is still required before implementation of the unified ICT disaster recovery plan and business continuity approach can commence. An important activity in this regard is the assessment of the intrinsic and time-sensitive value of all the information systems to be covered, which determines the level and costs of the required protection against failure. The Advisory Committee notes that an inventory of systems has been established by the Business Continuity Management Unit of the Department of Management. The next steps to be taken include the conduct of a business impact analysis by the Office of Information and Communications Technology and the Business Continuity Management Unit to identify and prioritize critical systems, and an assessment of the costs associated with the preservation and recovery of each system.

63. The Advisory Committee enquired as to the cost implications of the envisaged use of the United Nations Service Base at Valencia as a secondary enterprise data centre. It was informed that the facility is already fitted to operate as a communications hub and to host computing and storage equipment, at no cost to the Organization. The additional resource requirements related to the enterprise data centre concern the costs of servers and storage equipment for the enterprise resource planning solution, which would have to be procured regardless of the location in which the enterprise data centre is established.

United Nations system-wide harmonization efforts

64. In paragraphs 80 and 81 of his report the Secretary-General discusses system-wide harmonization efforts on ICT matters currently being undertaken through various inter-agency mechanisms, including the ICT Network of the High-Level Committee on Management of the United Nations System Chief Executives Board for Coordination. This coordination is intended to promote the development of common ICT approaches and solutions for the benefit of the entire United Nations system (see also para. 40 above). The Advisory Committee notes the following initiatives cited by the Secretary-General: (a) the development of a crisis information management strategy, aimed at providing mechanisms to integrate and share information across the United Nations system, with a view to enhancing information management capacity in the identification, prevention and mitigation of, response to and recovery from all types of crises; (b) the United Nations spatial data infrastructure concept, aimed at promoting the use of spatial data in an efficient manner across the United Nations system; (c) the development of common standards and costing information for ICT services and investments; (d) the sharing of

expertise and practice in the area of enterprise resource planning, with a view to harmonizing business processes and achieving lower software costs; and (e) improved coordination in the area of data communications, aimed at achieving savings and increased efficiency in the provision of data communication services. **The Advisory Committee welcomes the efforts under way and encourages the Secretary-General to continue to seek further opportunities for synergies and for the adoption of common standards and solutions across the United Nations system.**

B. Structural review

65. In his report on the ICT strategy (A/62/793 and Corr.1), the Secretary-General proposed that structural reviews of all ICT units throughout the Organization would be conducted, with a view to assessing the current state of ICT and rationalizing and harmonizing ICT operations and structures. He was requested by the General Assembly in its resolution 63/262 to present a comprehensive inventory of ICT capacities across the Secretariat, including dedicated and part-time personnel (see also para. 45 above). Section III of the Secretary-General's current report (A/65/491) sets out information on the conduct and findings of the Secretariat-wide structural review (*ibid.*, paras. 82-103). It also presents the Secretary-General's recommendations and proposals for addressing those findings in the form of four structural review projects (*ibid.*, paras. 104-240).

Review process

66. The Secretary-General presents background information on and details of the review process in paragraphs 82 to 92 of his report. As indicated, a preliminary survey was conducted in late 2008 aimed at understanding ICT staffing levels, functions and workload in approximately 60 departments, offices and field missions throughout the Organization. Information about ICT spending, computers, data centres and key workload indicators, as well as organizational structure and posts was captured in the survey. In addition, the ICT budget allocations were also requested and reviewed. The Secretary-General indicates that an in-depth analysis of the survey and other available data allowed identification of areas for improvement, primarily concerning the ICT organizational design and infrastructure operations. Key findings pointed to the variation in ICT job titles and inconsistency among ICT units, and the absence of a clear definition of the boundaries between ICT and non-ICT jobs, resulting in a lack of visibility with regard to the allocation of resources to ICT across the Organization as well as with regard to the totality of ICT expenditure.

67. A more comprehensive assessment of over 70 ICT units was conducted in 2010 to update previously gathered survey data and collect additional data on workload indicators. In addition, a new global ICT staffing model was developed and used in the 2010 survey to more precisely understand and quantify the range of ICT functions that were being performed in various duty stations across the Organization. The survey data were compared with public sector industry and Government sector benchmarks, and were also analysed by subject matter experts from ICT units across the Organization in order to identify improvement opportunities. The Secretary-General further indicates that consultations were also held with the Office of Programme Planning, Budget and Accounts and the Office of Human Resources Management to validate data and review project proposals, which

were subsequently reviewed by ICT chiefs across the Organization, the ICT Advisory Group, and the ICT Executive Committee.

68. Upon enquiry, the Advisory Committee was provided with additional information on the methodology used for the structural review process as well as for deriving ICT budgets and obtaining staff inventory. This additional information is set out in annex III below. The Secretary-General indicates that current accounting and human resources management systems do not provide for itemization of ICT costs, consistent definitions of ICT functions or clear identification of personnel performing ICT tasks. The survey data were therefore compiled manually to derive information on ICT expenditures and staff performing ICT functions. As a result the review process was extremely labour-intensive and cannot be reproduced on a regular basis.

Main findings

69. Details and analysis concerning the main findings of the survey are presented in paragraphs 93 to 103 of the Secretary-General's report, along with some key ICT statistics (A/65/491, table 5). The Secretary-General indicates that the key findings of the review are as follows:

(a) Annual ICT expenditure of the United Nations is estimated at \$774 million, including from regular budget, peacekeeping and support account and extrabudgetary funding sources. A breakdown of the overall amount by office/department and funding source, along with details of the data sources used for deriving the data, is provided in annex I to the Secretary-General's report. The Secretary-General indicates that the total is established on the basis of proposed rather than approved budgets, which do not always provide the necessary level of detail (*ibid.*, paras. 93-94).

(b) The total ICT staff count is 4,219, including international staff, volunteers and contractual staff. A breakdown of staff by department/office and grade level is provided in annex II to the Secretary-General's report. Details of the sources used for deriving the data, are provided in the footnotes to annex I to the Secretary-General's report. The total does not include personnel who perform ICT functions but are not a part of a formal ICT unit or do not have an ICT job title. The Secretary-General has also identified 173 non-standard ICT job titles. He indicates that ICT boundaries are not well defined and that it is not clear what constitutes an ICT activity or role. Furthermore, current ICT career paths and job descriptions do not reflect evolving ICT demands and industry best practices (*ibid.*, para. 95; see also para. 180 (a)).

(c) Overall ICT spending represents approximately 5.4 per cent of the annual United Nations budget, which is in the range of ICT spending of large Government institutions. However, the Secretary-General indicates that comparisons at the level of the three main categories of ICT spending (solution delivery, infrastructure, and management and administration) show that the Organization is more focused on infrastructure and operations (79 per cent of ICT spending) than on solution delivery (14 per cent). In this connection, the Committee notes the specificities of the United Nations environment, given that a significant portion of ICT resources in field missions are devoted to providing basic infrastructure and communications, which is in part due to the difficult environments in which many missions must operate, as well as the very nature of the support they provide to military and police personnel.

Notwithstanding the above, the Secretary-General remains of the view that the share of resources devoted to solution delivery is low (*ibid.*, paras. 96-100).

(d) There are currently 131 ICT service desks, supporting multiple variable workstation environments as well as providing telecommunications support (*ibid.*, para. 101).

(e) There are some 211 server rooms/data centres, supporting multiple server environments, over 4,500 physical servers and over 83,000 desktop computers and laptops (*ibid.*, para. 101).

(f) The existing budget processes and systems do not allow tracking of ICT costs on a regular basis. In this connection the Secretary-General highlights the need for a consistent and streamlined global ICT chart of accounts and a supporting financial system with improved capabilities (*ibid.*, para. 94).

Recommendations of the Secretary-General

70. From the findings of the structural review, the Secretary-General concludes that the ICT environment and processes remain decentralized, fragmented and non-standardized, driving up the costs of operations and preventing the Organization from realizing economies of scale. He emphasizes that a lack of resources to perform strategic, "cross-cutting" functions has limited the ability of the Office of Information and Communications Technology to minimize and reverse the effects of organizational ICT fragmentation and duplication. To improve this situation, the Secretary-General affirms that the Secretariat must invest in one-time projects to standardize and streamline ICT environments across the Organization, in order to increase the efficiency of routine ICT activities and to allow a larger proportion of resources to be dedicated to the development of applications in support of the Organization's programmatic activities. Key findings and recommendations emanating from the structural review are summarized in table 6 of the Secretary-General's report. In paragraphs 116 to 118 the Secretary-General provides a summary of the structural review approach. A graphical presentation of the ICT structural review approach is provided in figure IX of the Secretary-General's report. It shows an evolution of focus from the standardization and streamlining of the ICT environment to the optimization of resources performing operational activities, and to an increase in the ICT resources performing strategic activities.

71. The Secretary-General has identified four projects to address the issues identified in the structural review, as follows:

(a) Operational initiatives designed to increase infrastructure efficiency and customer service levels: structural review project 1 ("globalize service desks") and structural review project 2 ("streamline data centres");

(b) Strategic initiatives designed to optimize global staffing and ensure that ICT personnel are placed where they are most needed, as well as to enhance the ability of the Office of Information and Communications Technology to deliver enterprise solutions more effectively: structural review project 3 ("rationalize ICT organization"), and structural review project 4 ("strengthen the Office of Information and Communications Technology").

72. For each project, the Secretary-General sets out: (a) the relevant details on the findings of the structural review; (b) the project objectives; (c) the principles which

will guide project implementation; (d) the expected qualitative and quantitative benefits; (e) the project phases and schedule; and (f) the resource requirements by project phase. The key features of each project are summarized in the paragraphs below.

(a) Structural review project 1: Globalize service desk

73. The Secretary-General's proposals for this project are contained in paragraphs 121 to 150 of his report. His findings indicate considerable inefficiencies in the current environment due to the lack of modern tools, the use of disparate technologies and a lack of integration. As noted above, there are currently 131 service desks. They are staffed by 835 personnel, at an estimated annual cost of \$135 million Organization-wide. Upon enquiry, the Advisory Committee was provided with a list of the existing service desks, which is contained in annex IV to the present report. The Secretary-General proposes to reduce the number of service desks and provide 24/7 service, with the introduction of automated and standardized service desk technologies and self-service tools for end-users. The project would be implemented in four phases starting in 2011 and continuing until 2015, comprising an initial planning and design phase, a second phase for the consolidation of Headquarters service desks, followed by consolidation of desks in offices away from Headquarters and field missions. The overall cost of the project is estimated at \$58 million. As to the expected benefits, the Secretary-General estimates that requirements for ICT personnel, including staff and contractual labour, would be reduced by 363 to a total of 491 individuals, and expects potential recurring annual benefits in the range of \$35 to \$47 million (A/65/491, para. 133). A breakdown of the benefits in terms of staff labour, contracted labour and equipment is provided in table 8 of the report.

74. Activities envisaged during the first phase of the project, which would extend from 1 January 2011 to mid-2012, include the evaluation, selection and piloting of the necessary tools. Resource requirements for the activities to be accomplished in 2011 are estimated at \$1,614,900 and would cover the evaluation and selection of the required tools (*ibid.*, figure X; table 17).

75. Upon enquiry, the Advisory Committee was provided with additional information on the opportunities for achieving efficiency gains by consolidating service desks in field missions, which is contained in annex II below. The Committee notes that the Department of Field Support has established a centralized service desk for multi-mission applications such as Galileo and Mercury but retains service desks locally in field missions to support local area networks. The Department indicates that this hybrid approach provides the requisite level of flexibility necessary in field missions.

(b) Structural review project 2: Streamline data centres

76. Details of the Secretary-General's proposals for project 2 are provided in paragraphs 151 to 179 of the report. He indicates that the findings of the structural review show that there are currently 34 data centres and 177 server rooms across the Secretariat, housing over 4,500 servers and serviced by some 552 personnel at an estimated annual cost of \$104 million. Upon enquiry, the Advisory Committee was provided with a list of data centres and server rooms. It is contained in annex V to the present report. The streamlining of the data centres is also discussed in

paragraphs 59 to 63 above in the context of the unified ICT disaster recovery plan and business continuity approach. Annex II provides details of the ongoing efforts of the Department of Field Support to streamline and consolidate data centres in field missions.

77. In paragraph 151 of his report, the Secretary-General provides figures showing a high level of growth in the number of servers, and emphasizes the need to contain the growth of computing facilities and achieve a rational number of data centres worldwide. He proposes the consolidation of data centres, server rooms and servers to a minimum number of enterprise and duty station data centres, and the provision of 24/7 service. In addition, the management of servers is to be automated and standardized, and eventually outsourced. The Secretary-General emphasizes the importance of consistency across the Organization and of ensuring that individual departments are not allowed to opt out of the common infrastructure.

78. The Secretary-General indicates that this project is to be implemented from 2011 to 2015 in four phases, namely: (i) planning and design (2011-2012); (ii) continuation of the ongoing standardization of server and storage management (2011-2013); (iii) consolidation of local server rooms, including an initial pilot phase (2013-2014); and (iv) consolidation of duty station data centres (2014-2015). The overall cost of the project is estimated at \$56 million, including resource requirements of \$1.9 million in 2011 for the initial activities of the planning and design phase (A/65/491, fig. XI and table 11).

79. With regard to the benefits of streamlining data centres, the Secretary-General estimates that requirements for ICT personnel, including staff and contractual labour, would be reduced by approximately 163 to a total of 245 individuals and he expects potential recurring annual benefits in the range of \$36.4 to \$54.6 million (*ibid.*, para. 161). A breakdown of benefits in terms of staff, contractual labour and equipment is provided in table 10 of the Secretary-General's report.

(c) Structural review project 3: Rationalize ICT organization

80. The Secretary-General's proposals on project 3 are presented in paragraphs 180 to 195 of his report. He indicates that the findings of the structural review show that there are over 4,200 dedicated ICT personnel in the Organization, with over 170 disparate, unofficial job titles. In addition, many modern ICT roles and career paths, such as project manager, are not reflected in the current job titles. The difficulties experienced in assessing ICT staff and functions because of the lack of standardized job functions are highlighted in paragraph 69 above and in annex III below. The Secretary-General also states that there is no Organization-wide understanding of what constitutes an ICT activity.

81. According to the Secretary-General's report, project 3 is intended to establish and define the boundaries of ICT functions, and to specify what constitutes an ICT role and where a given ICT function should be performed. A global staffing model and global ICT career development process are to be developed and implemented. This will allow a review of the ICT units and the formulation of recommendations for the implementation of organizational changes in the ICT management structure, including the consolidation of multiple ICT units within the same department (*ibid.*, para. 181 (e)).

82. The Secretary-General indicates that it is proposed to carry out the project in five parallel streams with the majority of the activities taking place in 2011 and 2012. The total cost of the project is estimated at \$4.6 million, including \$1.5 million for 2011.

83. The Secretary-General indicates that the expected benefits include: improved transparency of ICT costs; workforce planning and accountability; improved professionalism and management of talent; improved staff mobility and reduced costs of operations; and avoidance of costs due to redistribution of ICT resources across the Organization to the units where they are needed.

84. In this connection, the Advisory Committee notes that it will be necessary to plan for the effective redeployment of staff who may be released as a result of the decommissioning of hundreds of ICT systems in the context of the implementation of the enterprise resource planning project. In section II above, the Advisory Committee expresses the view that the planning of the decommissioning activities should be coordinated by the Office of Information and Communications Technology, in the context of the projects arising from the outcome of the structural review of ICT capacities. The Committee notes from the Secretary-General's report that one of the principles guiding the project is that staff redeployments will be on a voluntary basis. Charts showing the distribution of the projected applications to be retired as a consequence of the implementation of the enterprise resource planning project in the resource management and knowledge management areas are provided in annex VI below.

85. The Advisory Committee further notes that the Office of Information and Communications Technology will work with the Office of Human Resources Management to implement a comprehensive global ICT career development path that facilitates mobility within and across the new ICT career streams. The Committee encourages the Secretary-General to pursue such collaborative efforts and to take into account prior studies, such as the mission benchmarking analysis referred to in the Secretary-General's overview of the financing of the United Nations peacekeeping operations (A/61/786, paras. 123-140).

(d) Structural review project 4: Strengthen the Office of Information and Communications Technology

86. The findings of the structural review in relation to project 4 are presented in paragraphs 196 to 203 of the Secretary-General's report. The Office has a total capacity of 366, comprising 161 staff, 32 general temporary assistance personnel and 173 contractual personnel. The Secretary-General indicates that this staffing level reflects the strength of the Office's predecessor, the Information Technology Services Division of the Department of Management, which was primarily responsible for providing core communications, servers and applications to United Nations Headquarters, and wide area network support and limited application and policy support to other entities within the Secretariat. He states that this workload has significantly increased in recent years as demand for ICT services has grown and that, furthermore, the mandate of the Office of Information and Communications Technology is broader than that of the former Information Technology Services Division. He points to a significant resource gap that exists in the Office with respect to cross-cutting functions, such as ICT policy, architecture and standard-setting, departmental ICT budget reviews and global portfolio management

(A/65/491, para. 200). Table 13 of the Secretary-General's report provides a list of the mandated activities of the Office and related resource levels. Upon enquiry, the Advisory Committee was provided with a more detailed table showing the mandated activities and corresponding staff deployment levels, which is contained in annex VII below.

87. The Secretary-General indicates that the project is aimed at augmenting ICT resources in high-priority areas where there is currently a significant gap between the mandate and the available resources, including areas such as (i) oversight and coordination, (ii) cross-cutting, Organization-wide ICT management functions, (iii) enterprise application development, in particular knowledge management and field systems, and (iv) global infrastructure oversight, architecture and engineering.

88. The expected benefits include improved effectiveness in the following areas: change management; strategic planning and management; alignment of business and ICT; increased transparency of ICT capacities; reduced duplication of efforts; and availability of shared infrastructure services.

89. The Secretary-General proposes to strengthen the capacity of the Office of Information and Communications Technology in two phases, as follows:

(a) The first phase includes the establishment of 23 new posts in the Office of Information and Communications Technology for the biennium 2010-2011, the incumbents of which would carry out the highest-priority planning and management of global ICT functions by establishing governance, policies, processes and standards for the entire Secretariat;

(b) The second phase includes the establishment of an additional 28 new posts during the biennium 2012-2013, the incumbents of which would carry out functions in the areas of enterprise application development and global infrastructure management and ongoing functions needed to plan and improve the global ICT environment.

Resource requirements

90. In paragraphs 241 to 243 of his report, the Secretary-General sets out the resources required for the implementation of the four structural review projects. He indicates that the amounts represent full project and start-up operational costs for the period from 2011 to 2015, broken down by biennium. Tables 17, 18 and 19 of the Secretary-General's report present a further breakdown of costs by project, funding source and object of expenditure respectively. The Secretary-General is proposing to finance the projects from the regular budget, the support account for peacekeeping operations and extrabudgetary resources, based on the cost-sharing formula for the enterprise resource planning project, in the following percentages: 15 per cent from the regular budget, 62 per cent from the support account for peacekeeping operations and 23 per cent from the special accounts for programme support costs. Furthermore, in view of the lifespan of project implementation over a five-year period, the Secretary-General is proposing that a multi-year special account be established to record income and expenditure for the three projects (A/65/491, para. 35). Table 1 below reproduces a summary of the requirements by project and biennium.

Table 1

Summary of net resource requirements by project (full project cost at current rates)

(Thousands of United States dollars)

<i>Project</i>	<i>2010-2011</i>	<i>2012-2013</i>	<i>2014-2015</i>	<i>Total</i>
Globalize service desk	1 614.9	19 655.0	36 774.8	58 044.7
Streamline data centres	1 906.2	12 391.3	41 833.3	56 130.8
Rationalize ICT organization	1 490.5	2 130.0	1 000.0	4 620.5
Subtotal	5 011.6	34 176.3	79 608.1	118 796.0
Strengthen the Office of Information and Communications Technology	3 523.8	16 521.3	1 834.2	21 879.3
Total	8 535.4	50 697.6	81 442.3	140 675.3

91. With respect to the Secretary-General's proposal to establish a multi-year account, the Advisory Committee is of the view that the Secretary-General could keep track of project income and expenditure without having recourse to a multi-year account. Moreover, in the light of its recommendations in paragraphs 101 and 102 below, the Committee sees no need for the establishment of a special multi-year account for the above-mentioned projects.

General comments and observations

92. The Advisory Committee welcomes the comprehensive structural review and the presentation of an Organization-wide perspective on ICT resources and the ICT environment. The findings of the structural review provide, for the first time, a sense of the scale of Organization-wide ICT resources and staffing, as well as their functional and geographic distribution across the Organization. The Committee also appreciates the information provided on the methodology used for conducting the structural review. While the results of the review may be imperfect owing to the lack of specific information currently available, the Committee recognizes the efforts made to refine the analysis and make adjustments so as to present as accurate a picture as possible of the ICT environment. The Committee shares the Secretary-General's view that there is a need for greater transparency concerning the Organization's ICT capacities in order to improve the effectiveness of the management of ICT resources, and emphasizes the need to strengthen the tools and methods for recording and analysing data on the utilization of ICT resources Organization-wide. The Committee also stresses the need to continue to take into account the specificities of ICT requirements in field missions, in particular their strong focus on ICT communications activities, and to provide a differentiated analysis, if necessary.

93. The common thread running through the Secretary-General's presentation is the legacy of fragmented ICT environments across the Organization which have built up over decades as individual offices have responded to their operational requirements under the prevailing organizational arrangements. This fragmentation has led to the proliferation of duplicate, incompatible and outdated systems, a limited ability to share and process information, and

incomplete coverage of ICT requirements, as well as a lack of transparency as to the level of the Organization's ICT expenditure and staffing. The recognition of the need to reverse this state of fragmentation was the key rationale for the establishment of a horizontal function for the management of ICT activities at the United Nations, leading to the establishment of the post of Chief Information Technology Officer and a strong, central and independent Office of Information and Communications Technology. The Secretary-General states that the four projects identified constitute some of the key measures that will be required to correct the serious weaknesses in the ICT environment. The Advisory Committee welcomes the Secretary-General's efforts to analyse the results of the structural review as a whole and to present a set of solutions for addressing some of the root causes of the fragmentation of the ICT environment of the United Nations.

94. The Advisory Committee notes that the Secretary-General provides details of the rationale, scope and potential qualitative and quantitative benefits, as well as an implementation plan, for each of the four structural review projects. In the Committee's view, the project proposals provide information that could be used to define benchmarks for assessing progress in the future. Table 2 below provides a summary of the estimated annual recurring quantified benefits for project 1 ("globalize service desks") and project 2 ("streamline data centres"). With regard to the quantified benefits related to staff labour, the Secretary-General states that the excess staff capacity released as a result of efficiency gains can be redirected to higher-value ICT functions or substantive activities (A/65/491, paras. 133 (a) and 161 (a)). The Committee points out that it would be up to the General Assembly to decide on the disposal of staff resources released as a result of efficiency gains (see also A/64/7/Add.9, para. 55).

Table 2

Estimated annual recurring benefits by project and category^a

(Thousands of United States dollars)

Benefits category	Globalize service desks		Streamline data centres	
	Low-range estimate	High-range estimate	Low-range estimate	High-range estimate
Staff labour	18.7	25.3	5.0	7.5
Contractual labour	6.6	8.9	14.3	21.4
Equipment	9.6	13.0	17.1	25.7
Total	34.9	47.2	36.4	54.6

^a Figures provided by the Office of Information and Communications Technology and reflected in the corrigendum to the Secretary-General's report (A/65/491/Corr.1).

Implementation approach

95. The Advisory Committee notes that the Secretary-General is proposing multiple large projects which are planned to be implemented in phases over a four-to five-year period, with financial implications estimated by the Secretary-General at a total amount of approximately \$141 million over the five-year period from 2011 to 2015, and one project with a significant staffing increase (structural review project 4 ("strengthen the Office of Information and Communications Technology")). Furthermore, he is requesting endorsement of the projects with immediate approval

of their funding over multiple budget cycles and from multiple funding sources. The Committee recognizes that the timing of the Secretary-General's report is in accordance with the requests of the General Assembly in its resolutions 63/262 and 63/269. However, it notes that the Secretary-General's proposals are being presented in an off-budget year.

96. The Advisory Committee considers that it would be premature for the General Assembly to take a decision on the overall requirements for the proposed projects for the period from 2011 to 2015, as proposed by the Secretary-General in paragraph 245 (f) of his report. It believes that the totality of resource requirements for ICT should be considered in the context of the proposed programme budget for 2012-2013 and for 2014-2015. In making his proposals, the Secretary-General should indicate how the lessons learned in the early phases of the projects would be absorbed and used to adjust the planning and requirements of subsequent phases.

97. The Advisory Committee had an exchange of views on these issues with the representatives of the Secretary-General and requested that it be provided with alternatives for a phased and prioritized approach to the implementation of the four structural review projects. It was informed that the Office of Information and Communications Technology had prioritized the four structural review projects as follows:

(a) *First priority:* Structural review project 4 ("strengthen the Office of Information and Communications Technology")

Structural review project 3 ("rationalize ICT organization")

(b) *Second priority:* Structural review project 1 ("globalize service desks")

Structural review project 2 ("streamline data centres").

The Office of Information and Communications Technology stated that structural review project 4 ("strengthen the Office of Information and Communications Technology") had been assigned first priority as it was foundational and would provide the Office with the necessary operational base to execute its mandate effectively, as well as to oversee and support other large-scale projects, such as structural review projects 1 and 2, the enterprise resource planning project and Inspira. Project 3 would significantly improve ICT effectiveness by increasing consistency, standardization, transparency and accountability and by optimization of the use of ICT resources. The project would also enable the Office of Information and Communications Technology to establish the global leadership role it was mandated to achieve. Structural projects 1 and 2 were assigned second priority because, while they would improve efficiency and service level and reduce fragmentation in a particular area, they would not permanently address the systemic issues that had led to a high level of fragmentation in the Secretariat. With respect to structural review project 4 ("strengthen the Office of Information and Communications Technology"), the Secretary-General indicated that the most significant gaps in the staffing of the Office related to functions such as portfolio management, project management and development of enterprise, application, systems and data architecture.

98. The Advisory Committee is of the view that priority should be given to structural review project 3 ("rationalize ICT organization"). It considers that the establishment of clear job boundaries, defining what constitutes an ICT activity, determining where those activities should be performed, and the development of a global staffing model are critical prerequisites for the necessary organizational changes to the ICT management structure, including the consolidation of multiple ICT units (A/65/491, para. 181 (e)).

99. The Advisory Committee recommends that the Secretary-General be requested to review the prioritization and the phasing of structural review projects 1, 2 and 4 and to present alternative implementation approaches in the context of the proposed programme budget for the biennium 2012-2013. Pending consideration of those proposals and recognizing the need to address the level of fragmentation, the Committee is of the view that the Secretary-General should pursue one of the above-mentioned projects that are focused on improving efficiency and service levels (see para. 97 above). It believes that project 1 ("globalize service desks") could have the most impact in terms of improved service for United Nations staff worldwide.

100. With regard to the project for the strengthening of the Office of Information and Communications Technology (project 4), the Committee considers that the Secretary-General should articulate a longer-range process of building up towards the capacity he considers to be required for ICT in the Organization. The Committee is of the opinion that a more staged approach would ideally involve the redeployment of resources released as a result of efficiency gains, rather than only increments in the overall staffing levels. Such a staged approach would allow the General Assembly to both appreciate the impact of the strategy and understand the mechanisms for harvesting savings from efficiency gains. Pending submission of the proposals relating to structural review project 4 ("strengthen the Office of Information and Communications Technology"), the Committee considers that the Secretary-General should be granted general temporary assistance to augment the capacity of the Office of Information and Communications Technology to undertake the strategic, cross-cutting programmes of its broadened, Organization-wide mandate, such as the development of enterprise architecture (A/65/491, para. 201).

Recommendations

101. The actions to be taken by the General Assembly are set out in paragraph 245 of the Secretary-General's report. Taking into account its considerations in paragraphs 96, 99 and 100 above, the Advisory Committee recommends that the General Assembly:

- (a) Authorize the Secretary-General to implement structural review project 3 ("rationalize ICT organization");
- (b) Authorize the Secretary-General to proceed with the activities planned for 2011 as part of the first phase of structural review project 1 ("globalize service desks");
- (c) Approve general temporary assistance equivalent to 7 P-4 positions to provide additional capacity for the Office of Information and Communications

Technology pending consideration of the proposals mentioned in paragraph 99 above;

(d) Endorse an extension of the existing lease of the secondary data centre for another 30 months beyond 31 December 2011.

102. The Committee further recommends that the resources required for the activities cited in paragraph 101 (a), (b) and (c) above be provided from within the resources approved for the biennium 2010-2011, and that actual expenditure be reported in the context of the second performance report.

Annex I

Procedures for the selection of subject matter experts for the enterprise resource planning project

A "lite-process" for the competitive selection of subject matter experts for human resources, budget and finance, central support and the supply chain, has been introduced with effect from October 2010, in view of the large number of subject matter experts required for the Umoja project and the need to ensure consistency and transparency in the selection process, in compliance with established provisions for staff selection. The process was introduced because the lack of subject matter experts posed significant risks to the project. These risks were discussed in the Steering Committee.

This process allows for the fair consideration of staff members who express interest in working as subject matter experts and was the result of extensive consultations with the Umoja team and other relevant parties within the Department of Management (the Office of Human Resources Management, the Office of Programme Planning, Budget and Accounts and the Office of Central Support Services). The aim is to establish a roster of candidates to avoid repetitive selection exercises and facilitate administrative procedures.

The procedures are as follows:

1. Preparation of subject matter expert profiles

Umoja Team Leaders draft temporary vacancy announcements for subject matter experts and share them with the Offices of the Assistant Secretaries-General for the Office of Human Resources Management, the Office of Programme Planning, Budget and Accounts and the Office of Central Support Services, as required, for clearance. For field and conference management-related functions, temporary vacancy announcements are cleared by the Under-Secretary-General, Department of Field Support and the Assistant Secretary-General, Department for General Assembly and Conference Management, respectively.

2. Evaluation of applications of subject matter experts

Representatives of the Umoja project and the respective business owners (the Assistant Secretaries-General of the Department of Management and the Department for General Assembly and Conference Management, and the Under-Secretary-General of the Department of Field Support) participate in joint evaluation of applicants. Assessments include review of candidates' personal history profiles and performance evaluations. Interviews would be at the discretion of the programme managers. A roster of suitable candidates is established and approved by the business owners. The Director of the Umoja project recommends to the Under-Secretary-General of the Department of Management, through the Chief Information Technology Officer, subject matter experts for selection from the roster. The release of candidates is arranged by the Executive Office of the Department of Management, following approval by the Under-Secretary-General of the Department of Management.

Subject matter experts for specialized functions where expertise is only available in a particular department/office, such as investment management, cashiers, etc., will be outside the process described above and will be identified/selected by the business owners.

The movement of subject matter experts is administratively recorded for mobility purposes.

Annex II

Ongoing activities undertaken by the Department of Field Support to streamline and consolidate service desks and data centres in field missions

Service desks

1. Opportunities exist to achieve efficiency gains by consolidating service desks and streamlining data centres in field missions. Certain specific factors will have to be taken into consideration when implementing the projects in field missions. These factors include the necessity for rapid reaction capability to address changing circumstances, the need to balance centralization with on-site capability and the difficulty and costs associated with voice, data and video transmissions over a largely satellite-based telecommunications infrastructure. The consideration of these factors is required given the lack of native information and communications technology (ICT) capacities in mission deployment areas.

2. The Department of Field Support has established a centralized service desk for such multi-mission applications as Galileo, Mercury, the Field Support Suite and Business Objects and for wide area network management. The service desk operates under a service management best practices framework utilizing the information technology infrastructure library methodology. The service desk is maintained for centralized systems only. As more centralized systems are implemented, the service desk size and scope will be adjusted accordingly. Service desks are retained in field missions to support local area networks, local communications infrastructure and distributed systems.

3. This hybrid approach provides the requisite flexibility and ensures that sufficient on-site support is available to uniformed and civilian personnel in missions, particularly in the light of troop and police rotations and a high turnover rate among staff. The approach also reduces costs associated with voice, video and data transmissions over the satellite-based wide area network. It is envisaged that the Department of Field Support will leverage the global field support strategy to achieve efficiency gains by combining, streamlining and consolidating the ICT service desk functions with other non-ICT call centre operations as the support components are consolidated in the regional service centres. The Department will leverage the Organization's service desk software by implementing the system in field missions to support ICT and other functional service desks. In addition, remote access technology software that is already part of a standard software package in field missions will be leveraged during this fiscal period to further consolidate service desks and accelerate services throughout the missions.

Service centres

4. The Department has also embarked on a project to consolidate and streamline data centres as part of its "light footprint" programme in field missions. This programme includes the virtualization of servers and the centralization of applications. As with the service desk initiative, the Department is taking a measured approach to mitigate risks associated with the degradation of services and is considering cost implications in the light of satellite-based telecommunications. The Department expects to be able to reduce the number of servers in field missions

by approximately 20 per cent during the 2010/11 fiscal period and will aim for a further reduction in data centres during the period 2011/12. As more systems are centralized, further opportunities will be exploited. With the secondary active telecommunications facility for peacekeeping becoming fully operational in 2011/12, opportunities to reduce tier 2 disaster recovery and business continuity facilities should further reduce the number of data centres and servers in use in the field missions.

5. The Department's efforts to consolidate service desks and streamline data centres in the field in the coming years, as described above, will be carried out under the Secretariat-wide strategy and guidance of the Office of Information and Communications Technology in the context of the two proposed structural review projects.

Annex III

Methodology used for the structural review process and for deriving information and communications technology budgets and obtaining staff inventory

Overall methodology for the structural review process

1. In line with the request of the General Assembly, structural reviews of all information and communications technology (ICT) units throughout the Secretariat have been conducted. The goal of the structural review is to rationalize and harmonize ICT operations and structures by making recommendations on organizational and other changes that will improve the effectiveness, efficiency and cohesiveness of ICT operations.
2. In late 2008, an initial survey aimed at understanding ICT staffing levels, functions and workload was completed by approximately 60 departments, offices and field missions throughout the Secretariat. The survey took a broad view of ICT, encompassing all staff and activities associated with the development, implementation and management of processes and technologies that enable the management of electronic information such as data, documents, websites and multimedia objects. The survey captured spending and staffing data, environmental data, such as the number of hardware assets, information about data centre facilities and certain workload indicators, such as the number of user accounts and supported devices. Staffing tables, organization charts of ICT units and proposed budget allocations were also requested and reviewed. In addition, 38 ICT processes were assessed using CobiT, a widely accepted management framework of indicators for measuring ICT process maturity.
3. An in-depth analysis of survey and other data identified improvement objectives in the areas of ICT organizational design and infrastructure. The improvement objectives were reviewed by Office of Information and Communications Technology senior management and ICT chiefs across the Secretariat. A key finding was that a wide variation of ICT job titles exists and that inconsistency among ICT units is prevalent. It was also clear that the boundaries between ICT and non-ICT jobs were not clearly delineated.
4. In 2010, a more comprehensive data collection exercise was conducted with the intention of refreshing previously collected data and obtaining additional workload indicator data in order to refine business change cases and more accurately assess potential costs and benefits. Several survey workshops and training sessions were provided to all survey participants to improve accuracy. A proposed new ICT staffing model was created and used in the survey so as to obtain a more precise understanding and quantify the range of ICT functions being performed across the Secretariat.
5. The survey data were compared with public sector industry and government sector benchmarks from leading information technology research and advisory firms.^a While the United Nations is unique in its operational model, the benchmark comparisons provided directional input and confirmed that high levels of fragmentation were resulting in reduced efficiency, capacity and output in key areas

^a Public sector benchmarks from Gartner and Info-tech were used.

and resulting in the inefficient use of available ICT resources. In particular, the benchmarks for ICT units in the Department of Field Support were adjusted to account for the challenges and constraints associated with the support of ICT in field missions.

6. The data were used as input for detailed cost and benefit quantification of improvement opportunities. Teams of subject matter experts from ICT units across the Secretariat analysed the data, combining their knowledge of the existing operational realities of the United Nations to prepare preliminary business change cases. These were subsequently reviewed by ICT chiefs across the Secretariat and the ICT Advisory Group and endorsed by the ICT Executive Committee.

7. The following paragraphs describe the methodology used to derive the ICT budgets across the Secretariat, as well as the process that was used to compile ICT personnel. The level of difficulty encountered while attempting to achieve a consolidated budget figure and staff inventory highlights the significant limitations that currently exist in effectively managing the global ICT environment of the Secretariat.

Methodology for deriving information and communications technology budgets

8. On the advice of the Programme Planning and Budget Division, proposed budgets were used as the source owing to the level of detail available to segregate ICT budget resources from non-ICT budget resources. The work of compiling an estimated budget figure for the Secretariat spanned several months. Office of Information and Communications Technology staff had to learn budget and finance systems in order to reconcile reporting requirements with what was available in various record systems.

9. The snapshot included in the report of the Secretary-General (A/65/491) details the proposed programme budget for the biennium 2010-2011 for the Secretariat, regional commissions, tribunals and offices away from Headquarters. For peacekeeping and political missions, the proposed budget for the period from 1 July 2009 to 30 June 2010 was used.

10. Not all departments across the Secretariat were included in this exercise. Departments or offices that are very small (generally with fewer than 30 staff) or have no ICT unit or staff were considered outside the scope of the study. The scope was based on the report on the composition of the Secretariat (A/64/352). The Information and Communications Technology Division of the Department of Field Support provided a revised list of field missions. Offices of programmes and funds were excluded from the exercise with the exception of the United Nations Conference on Trade and Development, the United Nations Environment Programme, the United Nations Office on Drugs and Crime and the United Nations Human Settlements Programme, as they had a large number of ICT staff and were included in the report on the composition of the Secretariat. The enterprise resource planning budget was also excluded from the scope of this exercise, since it represents an atypical, large, one-time investment.

11. An aggregate amount from the four main sources is used to arrive at the total annualized proposed ICT budget (2010-2011):

(a) Regular budget:

- The proposed ICT budget for 2010-2011 is used as the basis
- The annual budget is derived by dividing the proposed programme budget for the biennium 2010-2011 by 2
- The proposed ICT budget figures for all the departments/offices except for the offices away from Headquarters and the special political missions are based on A/64/6 (Introduction)
- The proposed ICT budget figures for three offices away from Headquarters (United Nations Office at Geneva, United Nations Office at Vienna and United Nations Office at Nairobi) are based on the proposed programme budget (A/64/6 (Sects. 28E, 28F and 28G))
- The proposed ICT budget figures for the special political missions are based on A/64/349/Add.3

(b) Extrabudgetary:

- Since this is not reported in any of the budget reports, the 2010-2011 annualized budget is based on budget figures that were reported and validated by each department/office during the structural review exercise

(c) Support account for peacekeeping operations:

- The proposed budget for the support account for 2009/10 (A/63/767) is used as the basis
- The proposed support account ICT and staff cost figures are based on A/63/698/Add.1 and A/63/767

(d) Peacekeeping budgets:

- The proposed budgets for peacekeeping missions for 2009/10 are used as the basis
- The proposed peacekeeping ICT budgets and staff cost figures of all the peacekeeping missions except for the support of the African Union Mission in Somalia (AMISOM) are based on A/C.5.63/24
- The proposed peacekeeping ICT budget and staff cost figures relating to support of AMISOM is based on A/64/465

Process for obtaining information and communications technology staff inventory within the Secretariat

12. Pursuant to the General Assembly's request to provide a comprehensive inventory of information and communications technology capacities across the Secretariat, the Office of Information and Communications Technology structural review project team began the process of collecting the inventory of ICT personnel in early 2010.

13. Initial meetings with the Office of Human Resources Management indicated that it does not house a comprehensive inventory across the Secretariat and that therefore manual intervention and surveying would be required.

14. Based on a workforce planning exercise that was carried out in 2009, the Office of Human Resources Management was able to provide the structural review team with a list of staff holding an ICT job title, as well as a list of all staff assigned to units that had at least one ICT staff member in them, regardless of title. The initial list provided by the Office of Human Resources Management contained more than 5,000 staff members. The structural review team manually pared the list down to approximately 2,000 by reviewing job titles and eliminating those which were clearly not ICT related.

15. The information on the remaining 2,000-plus staff members was pre-populated into the ICT survey templates that were sent to each ICT unit for validation. The ICT chiefs and focal points were asked to confirm that the list reflected the actual personnel in their respective units, to update the list to reflect additional resources such as staff not indicated on the original list, consultants and contractors, as well as to assign the ICT personnel a new job title using the newly designed ICT career paths (global staffing model). In addition, ICT chiefs and focal points were asked to provide a functional breakdown of ICT personnel according to the functional definition used by the structural review team, which classified all ICT activities in the Secretariat into high-level categories.

16. As the scope of the Office of Human Resources Management data is limited to staff that hold a letter of appointment, it excludes the majority of ICT personnel in the missions. The ICT personnel information for the missions was provided to the structural review team by the Department of Field Support.

17. The combination of survey results and the list provided by the Department of Field Support indicated that there were 4,219 ICT personnel as at March 2010, distributed among 173 different ICT job titles.

Observations on the information and communications technology staff inventory data-collection process

18. The Office of Human Resources Management does not have a Secretariat-wide inventory of ICT personnel. It was not possible to obtain a Secretariat-wide inventory or headcount of ICT vendor personnel that are assigned to the Secretariat directly from the vendors. For example, the Office of Information and Communications Technology was unable to obtain a headcount of United Nations Office for Project Services personnel working for the Information and Communications Technology Division of the Department of Field Support.

19. The Office of Human Resources Management data warehouse covers only personnel who have been issued a letter of appointment and so excludes consultants, contractors, local field personnel and the like, as the authority for human resources management has been delegated to the Department of Field Support for personnel under its purview.

20. For the 4,219 personnel distributed among 173 different ICT job titles, there is currently no consistency among job titles; some are very descriptive whereas others are too vague and are not indicative of what one's job functions are.

21. In some cases there was a misunderstanding on the part of respondents about the reason to validate the ICT personnel information in the survey and resistance to doing so. Once it was explained that the information had been requested by the General Assembly, all respondents were compliant, however, the structural review

team has no way of verifying how comprehensive the validation process was, whether all consultants were added to the inventory and furthermore whether "shadow" ICT staff — those who perform ICT functions but are not categorized as such — were included.

22. The temporary staffing database that was created for the purpose of providing this information to the General Assembly was extremely labour-intensive; it has not been possible to keep it updated, and furthermore, the Office of Information and Communications Technology does not presently have resources that would enable it to, although it has been mandated by Member States to perform this function.

23. The Sourcing Management Section of the Enterprise Management Division will, among other things, ensure that the inventory of all Secretariat-wide ICT personnel is maintained on an ongoing basis and that a comprehensive ICT sourcing management policy is in place.

Annex IV

Existing service desks

<i>Department/office</i>	<i>No. of service desks</i>	<i>Location</i>
Department of Economic and Social Affairs	1	New York
Department of Field Support/Field Budget and Finance Division	1	New York
Department of Field Support/Field Personnel Division	1	New York
Department of Field Support/Information and Communications Technology Division	1	New York
Department for General Assembly and Conference Management	1	New York
Department of Management	0	New York
Department of Management/Office of Central Support Services	1	New York
Department of Management/Office of Human Resources Management	1	New York
Department of Management/Office of Programme Planning, Budget and Accounts	0	New York
Department of Management/Office of the Under-Secretary-General	0	New York
Department of Political Affairs	1	New York
Department of Public Information	1	New York
Department of Peacekeeping Operations	0	New York
Department of Safety and Security	0	New York
Executive Office of the Secretary-General	0	New York
Office for the Coordination of Humanitarian Affairs	7	New York, Geneva
Office for Disarmament Affairs	0	New York
Office of Information and Communications Technology	3	New York
Office of Internal Oversight Services	1	New York
Office of Legal Affairs	0	New York
Subtotal, Headquarters	20	
United Nations Office at Geneva	10	Geneva
Office of the United Nations High Commissioner for Human Rights	1	Geneva
United Nations Conference on Trade and Development	1	Geneva
United Nations Office at Nairobi/United Nations Environment Programme/ UN-Habitat	1	Kenya
United Nations Office at Vienna/United Nations Office on Drugs and Crime	3	Vienna
Economic Commission for Africa	1	Addis Ababa
Economic Commission for Europe	1	Geneva
Economic Commission for Latin America and the Caribbean	3	Santiago
Economic and Social Commission for Asia and the Pacific	1	Bangkok
Economic and Social Commission for Western Asia	1	Beirut
International Criminal Tribunal for Rwanda	3	Arusha, United Republic of Tanzania

<i>Department/office</i>	<i>No. of service desks</i>	<i>Location</i>
International Tribunal for the Former Yugoslavia	1	The Hague, Amsterdam
Subtotal, offices away from Headquarters, regional commissions and others	27	
United Nations Organization Mission in the Democratic Republic of the Congo	16	Democratic Republic of the Congo
United Nations Operation in Côte d'Ivoire	1	Côte d'Ivoire
United Nations Peacekeeping Force in Cyprus	4	Cyprus
United Nations Interim Force in Lebanon	3	Beirut
United Nations Logistics Base	1	Brindisi, Italy
United Nations Mission in the Sudan	8	Khartoum
United Nations Integrated Mission in Timor-Leste	5	Timor-Leste
United Nations Integrated Office in Burundi	5	Bujumbura
United Nations Assistance Mission in Afghanistan	27	Kabul
United Nations Peacebuilding Support Office in Guinea-Bissau	0	Guinea-Bissau
Rest of the missions	14	
Subtotal, peacekeeping and special political missions	84	
Total	131	

Annex V

Data centres and server rooms

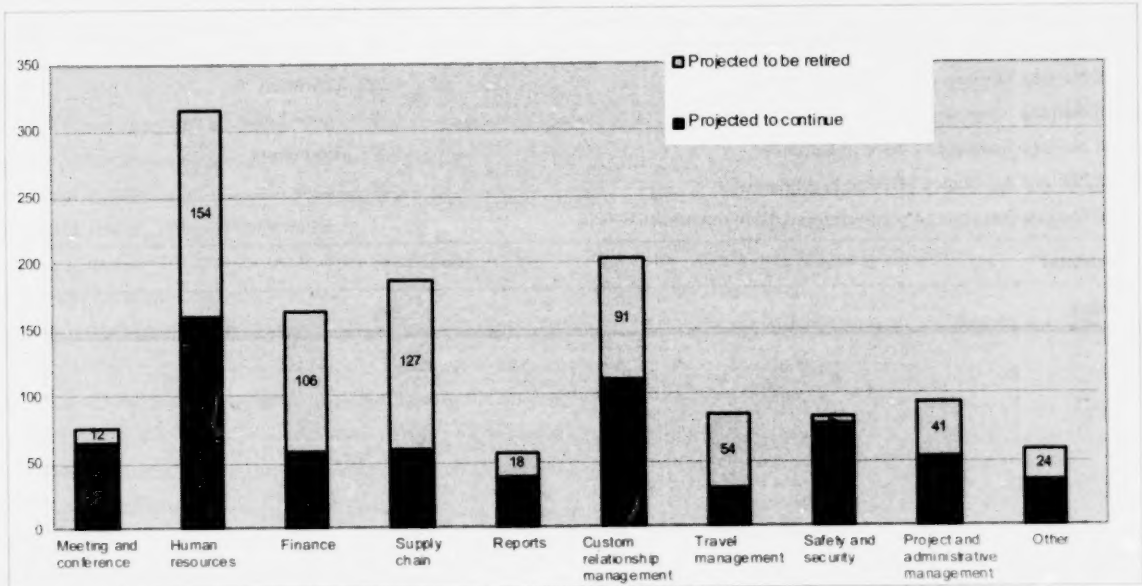
	<i>Number</i>	<i>Location</i>
Data centres		
Office of Information and Communications Technology	2	New York
Economic Commission for Africa	1	Addis Ababa
Economic Commission for Europe	1	Berkshire, United Kingdom of Great Britain and Northern Ireland
Economic Commission for Latin America and the Caribbean	1	Santiago
Economic and Social Commission for Asia and the Pacific	1	Bangkok
Economic and Social Commission for Western Asia	1	Beirut
International Criminal Tribunal for Rwanda	2	Arusha, United Republic of Tanzania
International Criminal Tribunal for the Former Yugoslavia	2	The Hague, Netherlands
United Nations Office at Geneva	2	Geneva
United Nations Office at Nairobi/United Nations Environment Programme	2	Kenya
United Nations Office at Vienna/United Nations Office on Drugs and Crime	2	Nigeria
United Nations Office at Vienna/United Nations Office on Drugs and Crime	1	Bogota
United Nations Office at Vienna/United Nations Office on Drugs and Crime	1	New Delhi
United Nations Office at Vienna/United Nations Office on Drugs and Crime	2	Vienna
United Nations Conference on Trade and Development	1	Geneva
United Nations Organization Mission in the Democratic Republic of the Congo	3	Democratic Republic of the Congo
United Nations Operation in Côte d'Ivoire	1	Côte d'Ivoire
United Nations Peacekeeping Force in Cyprus	1	Cyprus
United Nations Interim Force in Lebanon	1	Beirut
United Nations Logistics Base	3	Brindisi, Italy
United Nations Integrated Office in Burundi	2	Bujumbura
United Nations Assistance Mission in Afghanistan	1	Kabul
Subtotal	34	
Server rooms		
Department of Economic and Social Affairs	1	New York
Department for General Assembly and Conference Management	1	New York
Office of Information and Communications Technology	2	New York
Economic Commission for Africa	2	Addis Ababa
Economic Commission for Latin America and the Caribbean	9	Santiago
Economic and Social Commission for Asia and the Pacific	1	Bangkok
International Criminal Tribunal for Rwanda	4	Arusha, United Republic of Tanzania
International Criminal Tribunal for the Former Yugoslavia	5	The Hague, Netherlands
United Nations Office at Geneva	6	Geneva
United Nations Office at Nairobi/United Nations Environment Programme	2	Nairobi
United Nations Office at Vienna/United Nations Office on Drugs and Crime	32	Vienna

	<i>Number</i>	<i>Location</i>
Office of the United Nations High Commissioner for Human Rights	8	Geneva
United Nations Organization Mission in the Democratic Republic of the Congo	17	Democratic Republic of the Congo
United Nations Operation in Côte d'Ivoire	8	Côte d'Ivoire
United Nations Peacekeeping Force in Cyprus	3	Cyprus
United Nations Interim Force in Lebanon	4	Beirut
United Nations Logistics Base	6	Brindisi, Italy
United Nations Mission in the Sudan	22	Khartoum
United Nations Integrated Mission in Timor-Leste	7	Timor-Leste
United Nations Integrated Office in Burundi	7	Bujumbura
United Nations Assistance Mission in Afghanistan	29	Kabul
United Nations Integrated Peacebuilding Office in Guinea-Bissau	1	Guinea-Bissau
Subtotal	177	
Total	211	

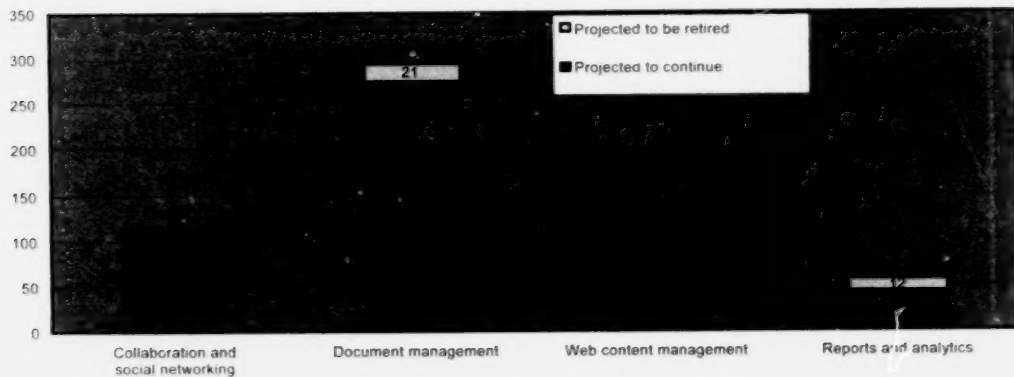
Annex VI

Applications to be retired as a consequence of the implementation of the enterprise resource planning system

A. Resource management



B. Knowledge management



Annex VII

Office of Information and Communications Technology mandate and staff deployment

Mandate from approved ICT strategy ^a	New/ existing mandate	Additional resources provided	Current staff assigned	Additional staff proposed	Ensure optimum use of resources	Management goals				Impact of no additional resources
						Control fragmentation	Improve transparency and accountability	Improve efficiency	Improve effectiveness	
Chief Information Technology Officer	New	Yes	1							
Strategy development and alignment: development of the ICT strategy for the Secretariat and coordination of its implementation (para. 35 (a))	New	No	3	4	X	X		X	X	• Loss of credibility and inability to perform leadership role – Ineffective governance structures
Global ICT financial monitoring and reporting, Secretariat-wide ICT budget review: reviewing budgets from all funding sources for all ICT initiatives and operations of the Secretariat (para. 35 (b))	New	No	0	3	X	X	X	X	X	– Insufficient ability to perform day-to-day management and coordination of ICT managers across the Secretariat
ICT performance measurement and management: monitoring, measuring and evaluating the performance of ICT units against established goals, objectives and budgetary targets, utilizing accountability frameworks as appropriate (para. 35 (c))	New	No	0	1	X		X	X	X	– Inability to position ICT properly in the context of the work of the Organization – Inability to drive transformational initiatives – Loss of credibility – Lack of transparency into Secretariat ICT spending – Lack of budgetary oversight in the ICT area
Enterprise architecture: setting the technological direction and architecture for the Organization (para. 35 (d))	New	No	3	6	X	X		X	X	– Member States will continue to receive ICT investment proposals that are not necessarily aligned with the Organizational priorities

Mandate from approved ICT strategy ^a	Management goals								Impact of no additional resources	
	New/ existing mandate	Additional resources provided	Current staff assigned	Additional staff proposed	Ensure optimum use of resources	Control fragmentation	Improve transparency and accountability	Improve efficiency		Improve effectiveness
Enterprise application development: planning and developing all Organization-wide ICT applications, including an enterprise resource planning system and other major systems (para. 35 (e))	Existing	Limited (except for Umoja)	52	11	X	X	X	X	X	– Inability of Member States to understand the linkages between various ICT initiatives – Investments in low-priority areas; deepening of fragmentation and shadow ICT – Lack of shared accountability
Enterprise infrastructure design: planning and developing the overall infrastructure architecture encompassing the communications networks and data centres of the Organization (para. 35 (f))	Existing	Limited	14	8	X	X	X	X	X	– Inability to account for ICT assets Secretariat-wide – Lack of performance measurement of autonomous ICT units
Enterprise infrastructure operation: using the Organization's global presence and ICT infrastructure to develop and operate Secretariat-wide applications and infrastructure in order to maximize benefits and cost-effectiveness (para. 35 (g))	Existing	Limited	61	2	X	X	X	X	X	– Lack of transparency into ICT metrics and productivity – Inability to improve accountability – Decreased efficiency – Proliferation of local infrastructure and applications
Technology research: undertaking, in collaboration with other ICT units, ICT research and development activities (para. 35 (h))	New	No		1		X	X	X	X	– High ICT cost with no visible benefit – Deepening of fragmentation resulting in the need to redo projects similar to projects 1 and 2 but at a much higher cost
Security and risk management: overseeing the assessment and management of ICT risks for the Organization (para. 35 (i))	New	No		1		X	X	X	X	– Lack of technology planning and inability to exploit state-of-the-art technology

Mandate from approved ICT strategy ^a	Management goals							Impact of no additional resources	
	New/ existing mandate	Additional resources provided	Current staff assigned	Additional staff proposed	Ensure optimum use of resources	Control fragmentation and transparency and accountability	Improve efficiency		Improve effectiveness
ICT sourcing: establishing ICT vendor (sourcing) management policies; reviewing and monitoring purchasing and contract renewal activities; coordinating vendor management selection, procurement and management strategies across the ICT organization (para. 35 (o))	New	No		3	X	X	X	X	• Lack of technology planning and inability to exploit state-of-the-art technology • Inability to leverage evolving technology to the benefit of the Organization – High operational risk to ICT operations and data – Lack of systematic approach to ICT disaster recover planning – Inability to recover data and networks after downtimes promptly – High operational risk to ICT operations and data – Inability to accurately account for ICT personnel – Deepening of ICT human resources fragmentation resulting in the need to redo a project similar to project 3 – Lack of integration between organizational direction and ICT capability to support programmes of work – Lack of ICT human resources strategic workforce planning and development – Inability to exploit state-of-the-art technology
Quality assurance: implementing quality assurance processes to ensure that all policies, processes and standards are in compliance (para. 35 (p))	New	Limited	2	2	X	X	X	X	
Client services/business relationship management: establish client services function (para. 42)	New	Limited	4	2	X	X	X	X	
Perform Executive Office function	New	Limited	14	2	X	X	X	X	

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Mandate from approved ICT strategy ^a	Management goals				
	New existing mandate	Additional resources provided	Current staff assigned	Additional staff proposed	Ensure optimum use of resources
					Improve transparency and accountability
					Control fragmentation
					Improve efficiency
					Improve effectiveness
					Impact of no additional resources
					- Inability to capture departmental priorities • Misalignment between business needs and ICT solutions • Higher rate of fragmentation - Inability to perform day-to-day human resource and financial management
Total			161	51	
Operational posts redirected towards cross-cutting functions			19		